Rail-Trail + Bus Rapid Transit
The Mass Central Connector

MAGIC REGION TRANSPORT
RESEARCH & OUTREACH

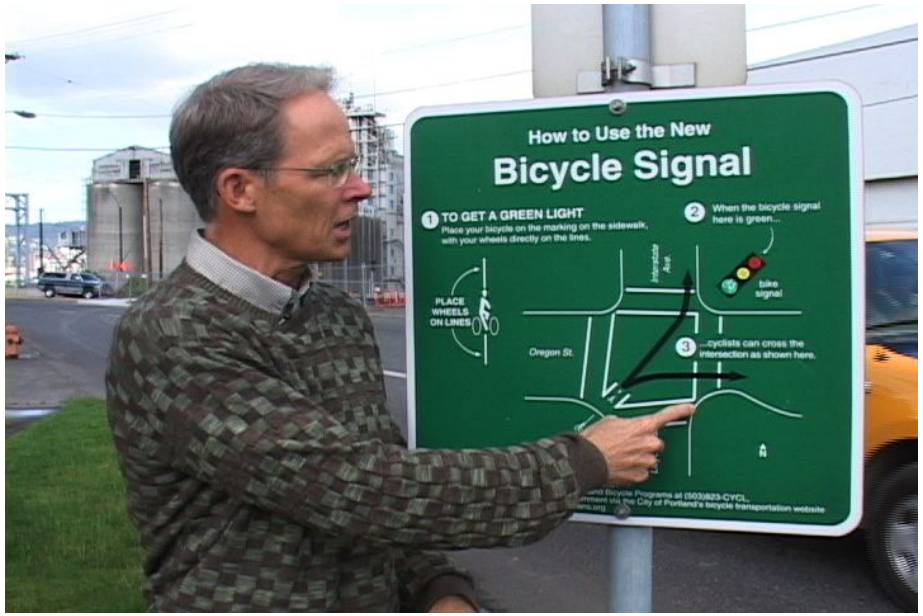
MAGIC REGION

MAGIC generated several transportation priority comments from "MAGIC MOBILITY" meetings regarding suburban mobility services and constraints in each town. The region has voted to spend special assessment funds on two studies in 2010, including a suburban mobility study for the region's towns and a feasibility study for a shared bicycle and bus rapid transit (BRT) path along the Mass Central Railroad right of way.

Innovative Schemas

The following concept is a innovative alternative design option for suburban transportation.

This corridor is unique in its length and design, and unlike any other system within the U.S.



Mass Central RR Corridor Status

THEN:

- Until 1958, rail service ran to Berlin and Clinton. In 1965, service continued to Hudson… And until 1971, commuter rail operated on the line branching from the Fitchburg commuter line to a connection at Waltham, and extending to South Sudbury.

- Freight service also occupied the line in a segment stretching from Waltham to Hudson until 1980. This rail right of way has been examined as a restored commuter line, and separately as a shared bike/pedestrian path since the mid 1990s .

CURRENT:

- MCB corridor is owned by the MBTA (up to a point about two miles west of I-495). Plans are currently underway to lease the right of way/corridor to DCR. The DCR connection allows this area to be maintained as a unique trail/ transit corridor option.

- Prospective designs are in discussion as the project has started to move forward. Current research offers a unique opportunity to work collaboratively, and encourage future plans for the corridor to function not exclusively as a trail, but also as a shared right of way for future transit options.

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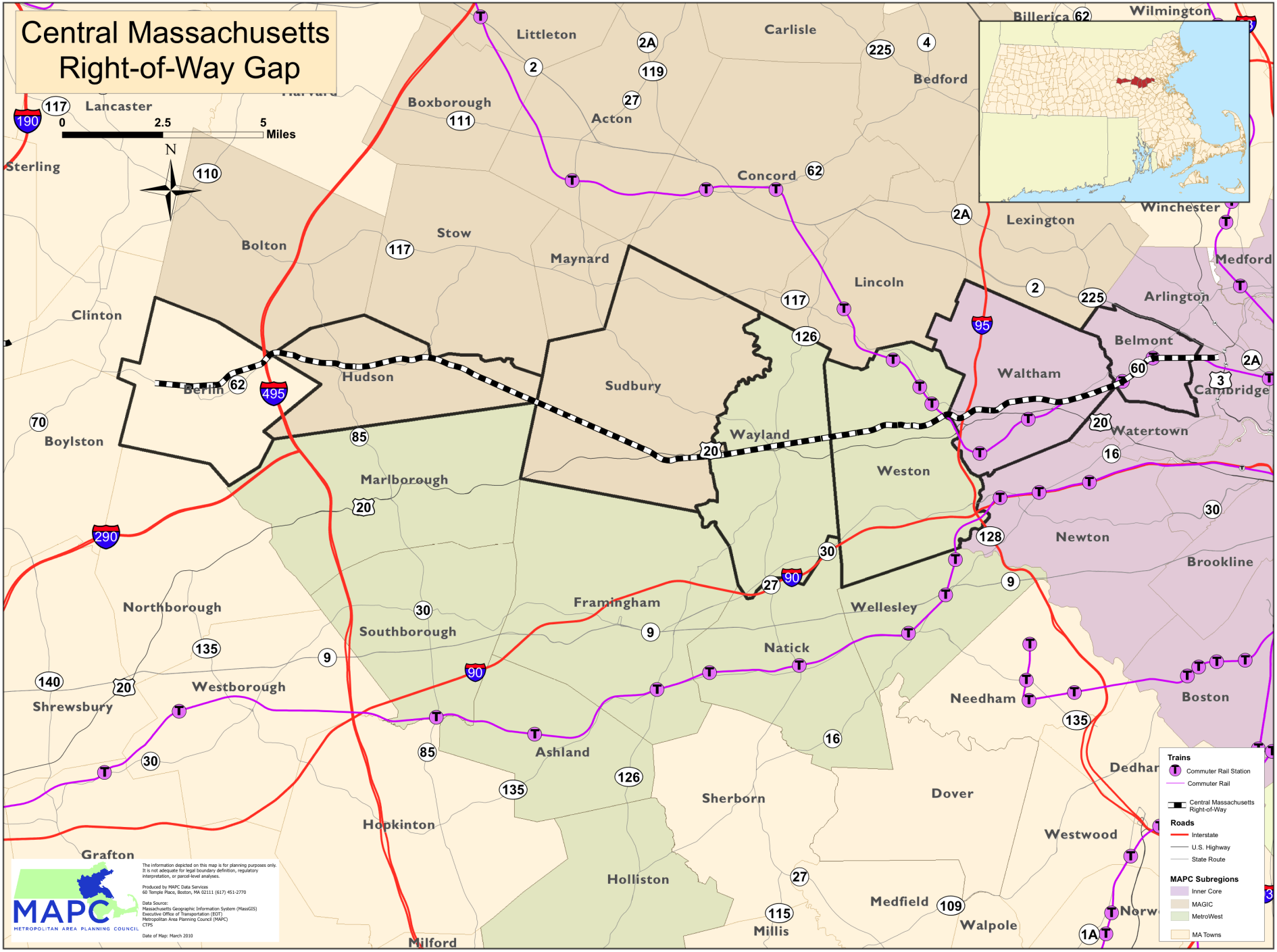
Central Massachusetts
Right-of-Way Gap
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Sudbury
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Brookline
Framingham
Wellesley
Northborough
Southborough
Natick
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Needham
Boston
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Ashland
Sherborn
Dover
Hopkinton
Westwood
Grafton
Holliston
Medfield
Walpole
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Trains
Commuter Rail Station
Commuter Rail
Central Massachusetts Right-of-Way
Roads
Interstate
U.S. Highway
State Route
MAPC Subregions
Inner Core
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MA Towns
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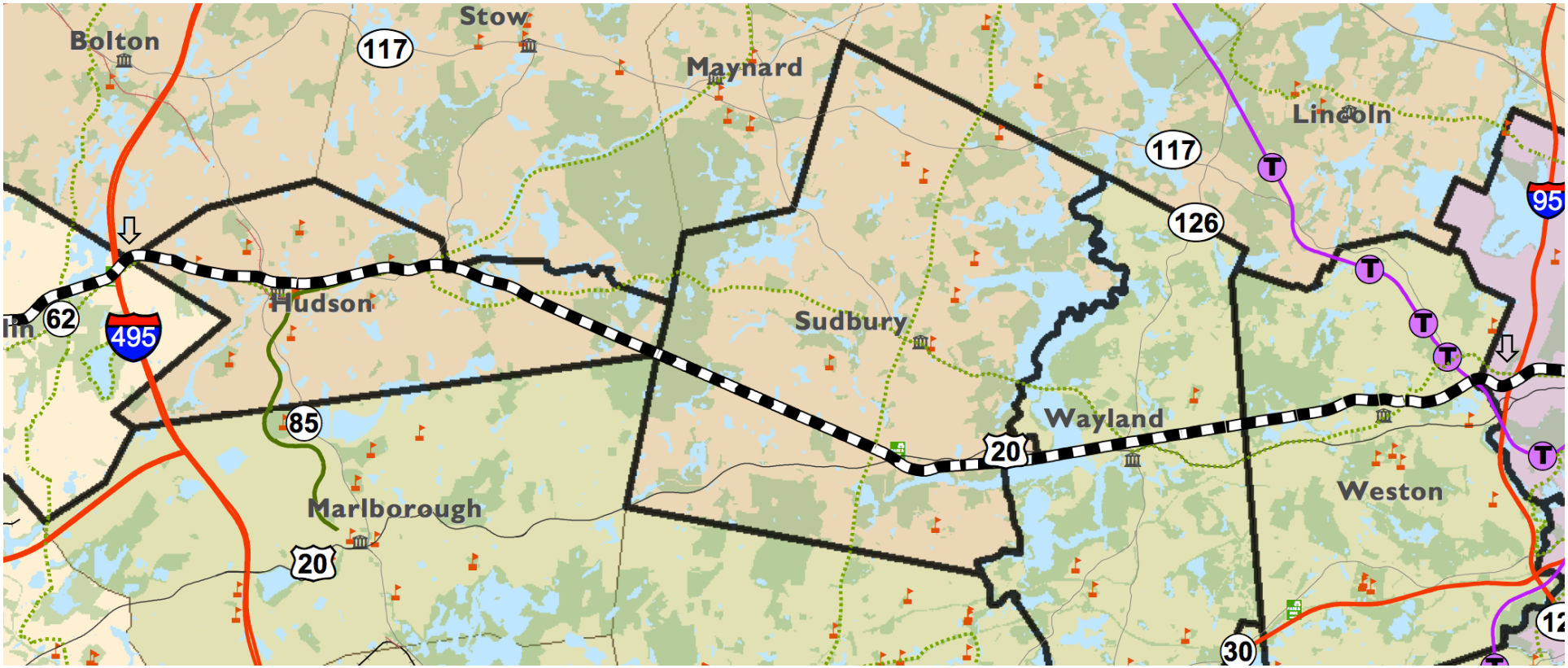

Mass Central Connector

Corridor Points:

Stretch from I-95 Fitchburg commuter line through Weston, Wayland, S. Sudbury & Hudson to I-495.

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What is Bus Rapid Transit (BRT)?

- A integrated system of facilities, services, and amenities that collectively improves the speed and reliability of bus transit.
- Combines many of the features people like about rail systems with the flexibility and cost savings of using over-the-road vehicles.
  - Uses high capacity buses or specialized vehicles on existing roadways or dedicated lanes to quickly and efficiently transport passengers to their destinations.
  - Systems can easily be customized to community needs and incorporate state-of-the-art, low-cost technologies that result in more passengers and less congestion
  - Advantages include: lower capital investment than light rail, higher federal funding opportunity, flexibility & short time frames to implement.

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BRT Options

BRT and bike/pedestrian corridors have the flexibility to be designed in a variety of ways.

- Separate bike paths with express lane options, as many or as few BRT vehicles as desired.

- Bus operations only during peak weekday hours (i.e. as much or as little as preferred).

-- Connections to other transit networks with the creation of connector hubs or linked paths

-- Access to bike facilities (lockers, showers, separate signaling lights, etc.)

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Similar Examples

Combining transit and cycling can provide a high level of mobility comparable to automobile travel.

Currently only urban city centers utilize BRT with the joint bicycle lane or have separate networks.

- Los Angeles, CA
- Oakland, CA
- Paris, France
- Philadelphia, PA
- Curitiba, Brazil
- Proposed joint projects: Princeton, NJ & Bristol, UK

BRT system combines the infrastructure and "branding" of rail transit with flexible routes

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+ Bus technologies

Clean diesel

Hybrid electric

Electric trolley

Fuel cell

Natural gas

Efficiency: Car. Bus. Bicycle.

Figure 2.6 Amount of space required to transport the same number of passengers by car, bus or bicycle. (Poster in city of Muenster Planning Office, August 2001)

Credit: Press-Office City of Münster, Germany

Why a bike lane with BRT?

- Linking bicycle and public transport journeys can be an effective way to cover distances too great to be completed by bicycle alone.
  - Combining bicycles with public transport has been popular for decades in a number of countries, offering a healthier option relieving peak commuting congestion. (For instance, in the Netherlands, some 30% of all trips start, finish or are entirely made with a bicycle journey.)

- Combining cycling with public transport offers various combinations:
  - Bicycle & train travel: Bikes can either be parked at the station or taken on board some trains.
  - Bicycle racks on buses: Some bus routes allow bikes to be carried on specially fitted racks, on the front of the bus.
  - Over 30 cities across the United States of America currently offer bus/ bike racks.

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Benefits of integrating bike & public transport

- Significantly increases the potential destinations available to bicycle riders
- Adds flexibility to public transport commuting with as many or as few options preferred
- Offers a sustainable alternative to using a private motor vehicle to commute
- Transit complements cycling by overcoming long distances, physical barriers, and bad weather
- Cost & level of service is as much or as little as community can afford (system can function as both recreation and peak commuting corridor)
- Increases the area around public transport by 10 to 14 times that for pedestrians
- Allows the cyclist to avoid unsafe traffic situations
- Cheaper than Park & Ride
- Expands recreational and touring cycling opportunities
- Improved access for bike riders and other users such as pedestrians with mobility aids, wheelchairs and parents w. strollers
- Increased health from exercise (convenient way of incorporating physical activity into a person's daily routine).

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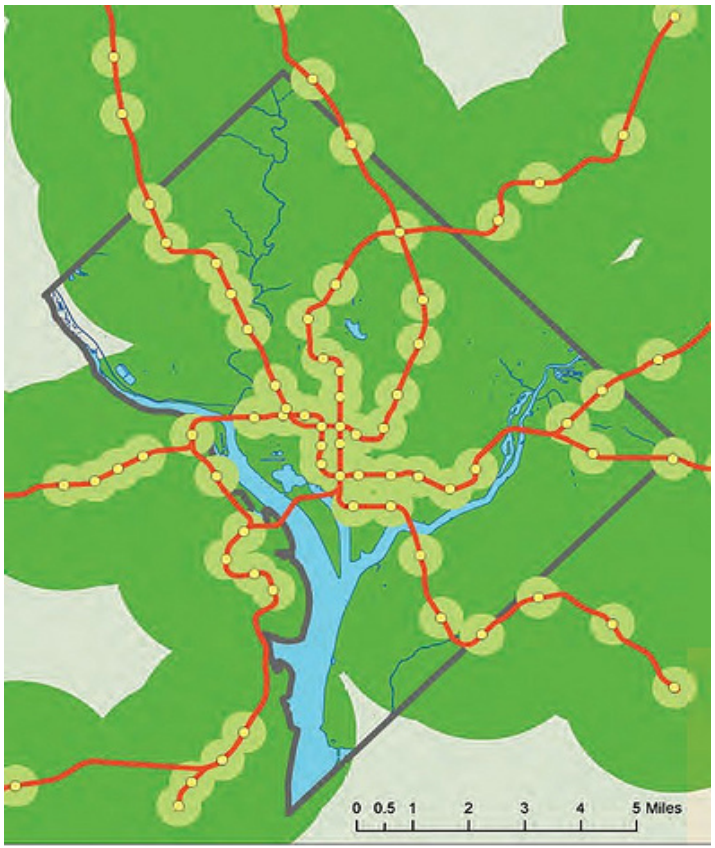
Capturing more riders



In the DC Metro suburbs, convenient access by bicycle would tremendously increase service area (dark green area within 10 minutes bicycling distance of a metro station). RTC

- A transit stop normally draws riders within a 10-minute (a half-mile) walking distance. At a modest riding speed a cyclists can travel three or four times that distance in the same time, increasing the transit catchment area about ten-fold accessibility.
- Bicycle access tends to be particularly important in suburban areas where densities are moderate and destinations are dispersed (Bracher, 2000).
- Nearly 2,100 miles (17% of nations total rail-trails) have been converted to multiple-use trails.
- The number of trips taken on foot and by bicycle will increase 68% from the year 2000 to 2030 (MAPC Metro Futures June 2009).
- The National Trails System Act allows the federal govt. to regulate the disposition of abandoned rail lines to preserve the right-of-way for future rail use and make way for development of alternative transport uses for railway corridors. This process of called "railbanking."

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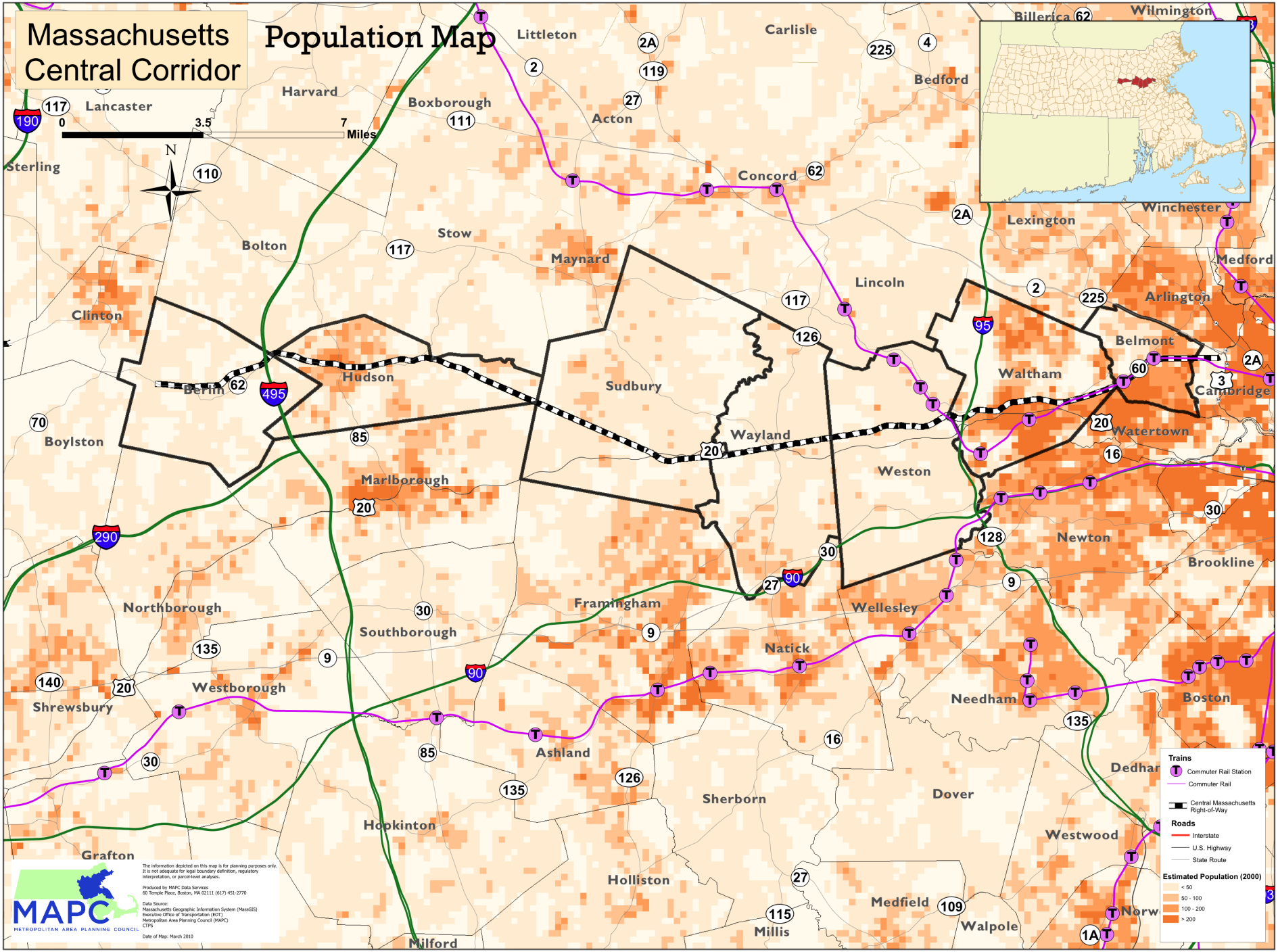
Massachusetts
Central Corridor
Population Map
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Bedford
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Lincoln
Medford
Arlington
Clinton
Belmont
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Hudson
Berlin
Sudbury
Waltham
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Watertown
Weston
Marlborough
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Framingham
Wellesley
Northborough
Southborough
Natick
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Needham
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Grafton
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Walpole
Millis
Milford
Trains
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Central Massachusetts Right-of-Way
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U.S. Highway
State Route
Estimated Population (2000)
< 50
50 - 100
100 - 200
> 200
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Scope

- The Mass Central Connector Study, extending west from Waltham to I-495 will examine the feasibility of the path to function as a shared transit corridor. MAPC will first and foremost take a broad look at the corridor and devote a significant amount of time to gathering data on the community level for support of these ideas.

- Components of the project include:
  - Outreach (meetings, survey, website, literature)
  - Research and literature review, global examples
  - Site examination
  - Use & ridership
  - Final recommendations (write-up done by end of summer)

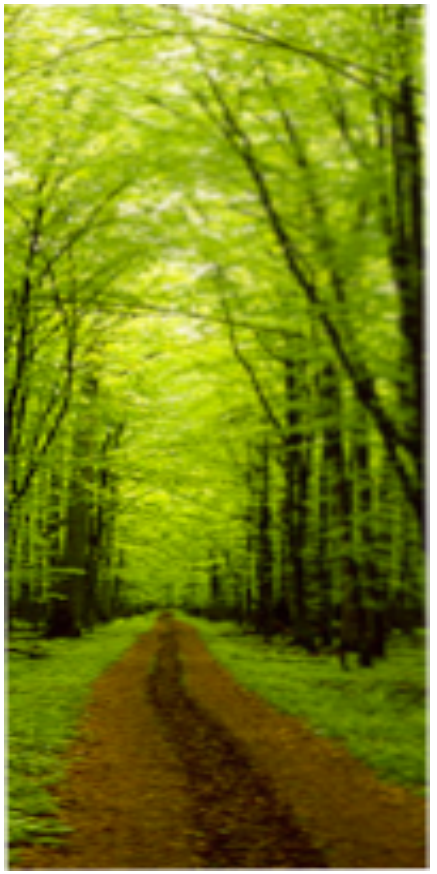
- Coordination amongst the communities is paramount. The trail currently presents issues of bridge reconstruction, wetlands and numerous right of way constraints that have emerged over the years. Central Transportation Planning Staff (CTPS) will be assessing these constraints and will supply an updated feasibility report for protected future usage.

Coordination

A central component of this project will be to engage the communities along the MCB rail corridor to determine their level of support, understand community concerns, and inform the future use of the right of way.

The Mass Central Connector will serve the surrounding communities as a connection between these employment centers. The corridor's future use, however is contingent on community approval and inter-local coordination. Coordination amongst the communities is an important factor in our outreach. The exact distances and currently numerous right of way constraints that have emerged over the years.

A survey will also be dispersed to communities to gauge approval for project ideas, as well as current transportation patterns and vehicle use.

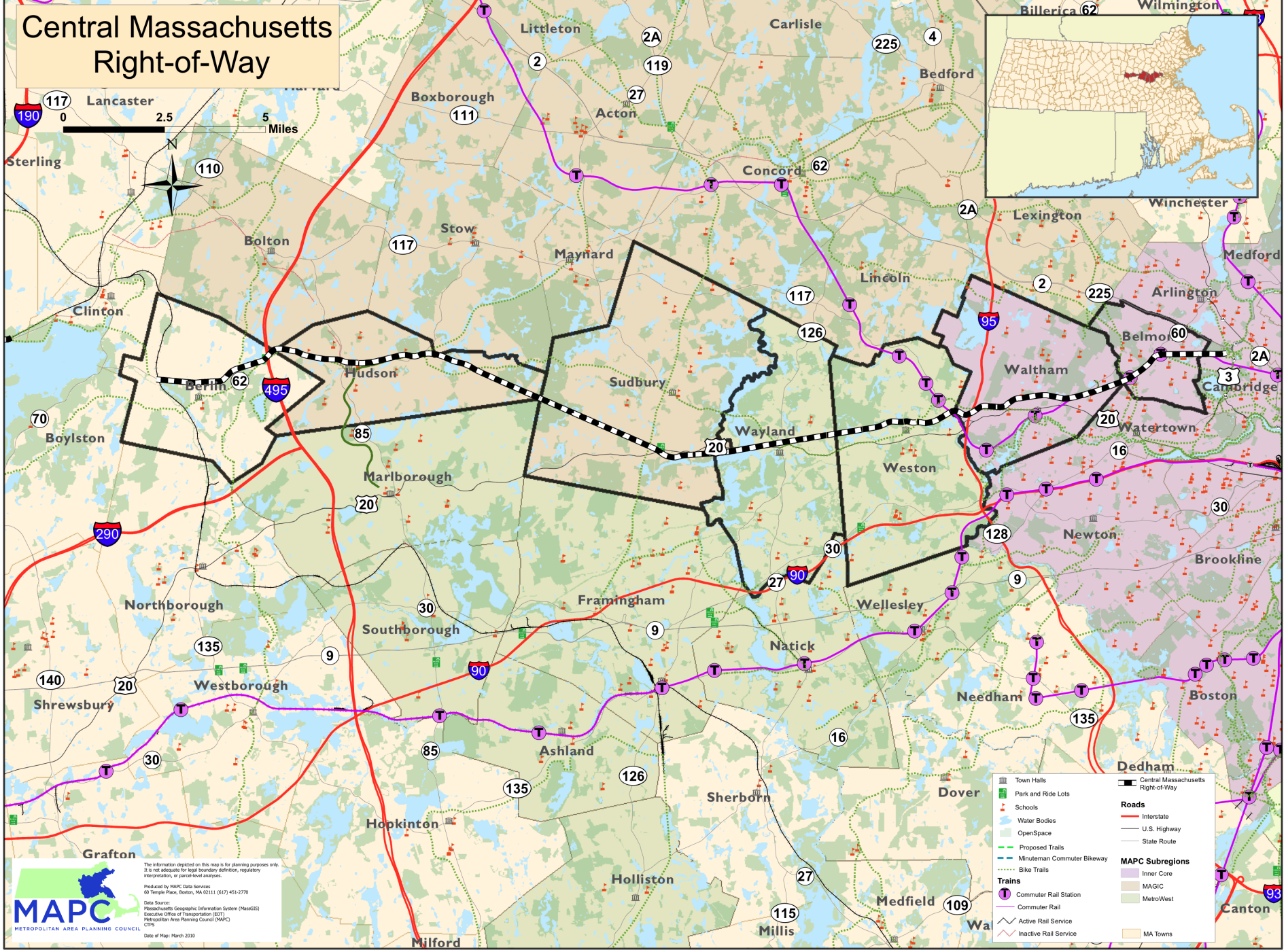


Endpoints & Design

- Design, start and endpoints are still being examined in efforts to develop the most connected and networked system for users.
  - Bike only?
  - Bus- Rapid Transit only?
  - Light-Rail for future?

[Width of right of way and sections of the corridor will determine further design options]

- Alternative gateway for commuters to the economic hubs along Interstate 495, the Route 128 corridors and beyond. Current length between points is 28 miles.
- Further growth and development is anticipated in both areas in the region.
- Serve surrounding communities as a connection to transportation hubs.
- The corridor's future use, however is contingent on community approval and inter-local coordination.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Hudson
Sudbury
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Watertown
Boylston
Marlborough
Wayland
Weston
Newton
Brookline
Northborough
Framingham
Wellesley
Southborough
Natick
Needham
Boston
Westborough
Shrewsbury
Ashland
Dedham
Dover
Sherborn
Hopkinton
Grafton
Holliston
Medfield
Millis
Milford
Canton
Town Halls
Park and Ride Lots
Schools
Water Bodies
OpenSpace
Proposed Trails
Minuteman Commuter Bikeway
Bike Trails
Trains
Commuter Rail Station
Commuter Rail
Active Rail Service
Inactive Rail Service
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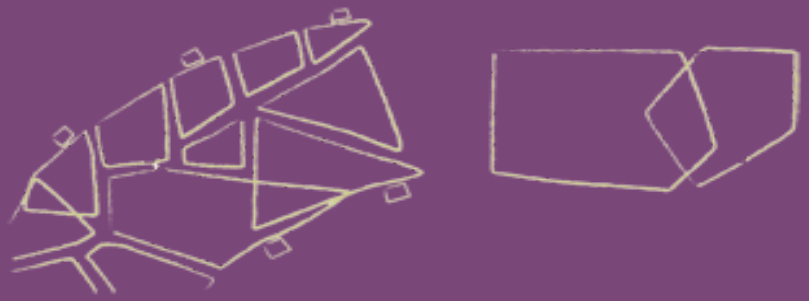

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Smart Growth & Regional Collaboration

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